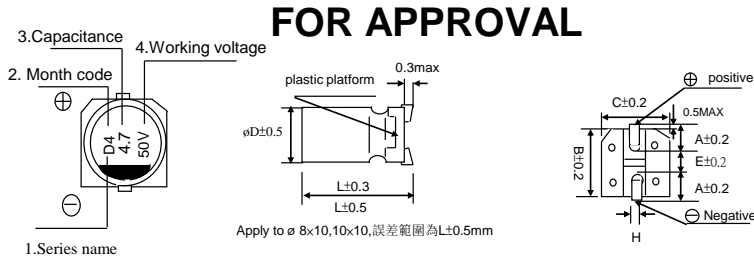


Dongguan Heyue Electronics Co., Ltd

DIMENSIONS(mm)

■ Chip Type



ΦD	4*5.4	5*5.4	6.3*5.4	6.3*6	6.3*7.7	8*10	10*10
A	1.8	2.1	2.4	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	2.2	3.1	4.5
L	5.4	5.4	5.4	6.0	7.7	10	10
H	0.5-0.8	0.5-0.8	0.5-0.8	0.5-0.8	0.5-0.8	0.8-1.1	0.8-1.1

Customer:	Electrolytic Capacitors HD Series										Heyue Code	
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Electric Characteristics:

P/N	Heyue P/N	Cap. (uF)	Cap. Tol. (%)	Rate Volt. (V-DC)	Surge Volt. (V-DC)	Oper. Temp. (°C)	Nominal Case Size D*L(mm)	Leakage Current Max (uA)	D.F. MAX (%)	R.C 100KHz (mA rms)	IMP 100KHz at 25°C (Ω)Max	Load Life (hours)
	HD1A220M0405VG-A	22	±20	10	11.5	105	4*5.4	2.2	26	80	2.0	2000

REMARKS:

- Leakage Current Test:** 6.3V ~100V at 20°C for 2 minutes ;
 - Operating temperature:** 6.3V~100V -55°C~ +105°C ;
 - .Dissipation Factor Test:** at 20°C, 120 Hz.
 - Capactitance Test:** at 20°C, 120 Hz.
 - Ripple Current Test:** at 105°C, 100K Hz ;
 - Load Life:** 3000 hours, with application of rated voltage at 105°C.
(L<10mm, 2000 hours;)
- Capacitance Change:** Within ±30% of initial value;
tanδ: 300% or less of initial specified value;
Leakage Current: Initial specified value or less;
- 7. Shelf Life:** The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours 105°C without voltage applide. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.
- Capacitance Change:** Within ±30% of initial value;
tanδ: 300% or less of initial specified value;
Leakage Current: Initial specified value or less;
- 8. when have characteristic requested :** Load life & shelf life test and etc. , judgment standard reference to our catalogue.
- 9.Remarks:** Heyue Part Number with suffix code "A" is specially offered for automotive project, which meets AEC-Q200 standard.

●SPECIFICATION

Leakage Current 洩漏電流	After 2 minutes application of rated voltage,leakage current is not more than 0.01cv or 3(uA),whichever is greater.											
Dissipation Factor 散逸因素 (損失角) (tan δ)	Measurement Frequency:120Hz. Temperature:20°C											
	Rate Voltage(V)	6.3	10	16	25	35	50	63	80	100		
	tan δ (MAX)	0.30	0.26	0.22	0.16	0.13	0.10	0.08	0.08	0.07		
Low Temperature Stability 低溫特性	Measurement Frequency:120Hz.											
	Rate Voltage(V)	6.3	10	16	25	35	50	63	80	100		
	Impedance Ratio(MAX) 阻抗比率(MAX)	Z(-25°C)/Z(20°C)	4	3	2	2	2	2	2	2	2	2
	Z(-55°C)/Z(20°C)	8	5	4	3	3	3	3	3	3	3	
●Frequency Coefficient of Permissible Ripple Current												
Frequency(Hz)	120 ≤ F< 1K			1K ≤ F< 10K			10K ≤ F< 100K			100K ≤ F		
≤33	0.35			0.70			0.90			1.00		
33~150	0.40			0.85			0.92			1.00		
>150	0.60			0.85			0.95			1.00		

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise.

When long life performance is required in actual use, the rms ripple current has to be reduced.